

# PATENT ABSTRACTS OF JAPAN

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## (54) METHOD FOR COVERING SHADOW ZONE IN MOBILE RADIO COMMUNICATION CELLULAR SYSTEM AND RADIO REPEATER FOR EXECUTING THE METHOD

(57)Abstract:

PURPOSE: To provide an inexpensive method for surely covering a shadow zone while guaranteeing the quality of a radio signal.

CONSTITUTION: When a base station BTSP transmits a radio signal to a mobile station MS in a shadow zone Z, by frequency  $f_{P2}$ , the signal is received by a receiver in a repeater R1. The repeater R1 converts the received signal into converted frequency  $f_{R12}$  related to the frequency  $f_{P2}$  and retransmits the frequency converted signal to the mobile station MS. In order to avoid a trouble of channel interference, the converted frequency is selected so as to be different from the transmitting frequency from the base station BTSP, all other frequency bands related to the base station and all other converted frequency bands. When the signal is transmitted from the mobile station by frequency  $f_{R12}$ , the repeater R1 applies the inverse of conversion relation and retransmits the signal to the base station by frequency  $f_{P2}$ .

